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# The COVID-19 pandemic as an opportunity to weaken environmental protection in Brazil

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## ABSTRACT

This paper examines the effects of the COVID-19 pandemic on environmental protection and legislation in Brazil. We evaluate major legislative actions, environmental fines and deforestation since January 2019. We show that 57 legislative acts aimed at weakening environmental protection in Brazil during the current administration, almost half of which in the seven-month period of the pandemic in Brazil, with September 2020 as the month with the most legislative acts ( $n = 16$ ). These acts either deregulated or weakened current environmental legislation, with a number of them aimed at dismantling the main federal institutions in charge of environmental protection. We also found a 72% reduction in environmental fines during the pandemic, despite an increase in Amazonian deforestation during this period. We conclude that the current administration is taking advantage of the COVID-19 pandemic to intensify a pattern of weakening environmental protection in Brazil. This has the potential to intensify ongoing loss of biodiversity, greenhouse gas emissions, and the likelihood of other zoonotic disease outbreaks, and inflict substantial harm to traditional and indigenous peoples. We highlight the key role of the scientific community, media and civil society, national and international levels, in order to reverse these harmful actions.

## 1. Introduction

The COVID-19 pandemic has had both positive and negative impacts on the environment. An unexpected consequence of the pandemic, however, is the weakening of environmental regulation and enforcement (but see [Corlett et al., 2020](#)). Across the tropics, deforestation increased between 63% and 136% during the COVID-19 outbreak, as compared to the same period in 2019, probably through relaxed legal enforcement during the outbreak ([Branca et al., 2020](#)). The weakening of environmental enforcement is most likely due to the difficulties imposed by COVID-19, but the pandemic can also word as an excuse for

ill-intentioned governments. In Brazil, a number of controversial actions by the Ministry of the Environment have occurred since the outbreak started in March 2020. While the weakening of environmental protection in Brazil has been going on since the onset of the current administration ([Ferrante and Fearnside, 2019, 2020a](#)), it seems to have intensified during the COVID-19 outbreak.

The causal link between the pandemic and the dismantling of environmental protection in Brazil was confirmed by the release, by the Brazilian Supreme Court, of footage of a ministerial meeting that took place in April 2020, as part of an inquiry at the request of the Attorney General's Office on another matter ([Spring, 2020](#)). In the meeting,

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Brazilian Environment Minister, Mr. Ricardo Salles, advised other ministers to take advantage that “the media attention is almost exclusively on COVID”, which was taking a very high toll in Brazil (The Lancet, 2020), “to open the flood gates and change all the rules and simplify norms”, focusing on those that do not depend on Congress approval (see video in SM for details). The actions included weakening environmental legislation and institutions, which legalized deforestation in key ecosystems, reduced environmental standards and law enforcement, and enfeebled Protected Areas’ management. The likely consequences of those actions to biodiversity and environmental conservation are yet to be estimated. Brazil holds a substantial part of the world’s biodiversity and tropical forests, playing an important role in regional and global climate stability and, therefore, the consequences of a weakening of its environmental protection are likely to cross the country’s boundaries (Fernandes et al., 2017). The dismantling of environmental protection in Brazil during the pandemic has the potential to intensify ongoing loss of biodiversity, greenhouse gas emissions, and the likelihood of other zoonotic disease outbreaks, and inflict substantial harm to traditional and indigenous peoples (Andreazzi et al., 2020; The Lancet, 2020; Ferrante and Fearnside, 2020a; Gonçalves et al., 2020). Here we review the major actions by the Brazilian federal government to weaken environmental protection during the COVID-19 pandemic, as well as trends in deforestation and environmental fine during that period.

## 2. Material and methods

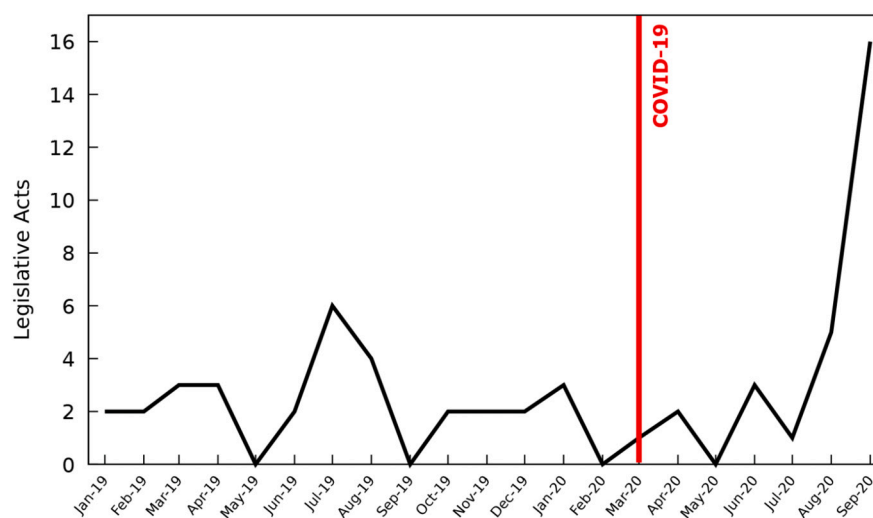
We gathered information: i) on environmental deregulation and easing through a systematic search of all legislative acts published in the Brazilian Official Gazette, the official federal vehicle where all decrees and changes in legislation are published daily (<https://www.in.gov.br/web/guest/inicio>); ii) on monthly deforestation in the Brazilian Amazon from the Brazil’s National Institute for Spatial Research (INPE) (<http://terrabrasilis.dpi.inpe.br/app/dashboard/alerts/legal/amazon/daily>); and iii) on environmental fines associated with illegal deforestation from the Brazilian Institute of Environment and Renewable Natural Resources (Ibama) (<http://dadosabertos.ibama.gov.br>). We evaluated trends from January 2019, when the current administration started, until August 2020 for fines and deforestation data and September 2020 for legislative acts. We considered March 2020 as the starting point of the COVID-19 outbreak in Brazil.

## 3. Post-COVID-19 environmental protection weakening

We identified 57 major legislative acts from the current administration that weakened environmental protection in Brazil (Table S1), 49% of which were enacted in the seven months since the onset of the pandemic (Fig. 1). September 2020 was the month with the highest number of legislative acts published ( $n = 16$ ). The acts included environmental deregulations that weaken environmental management and enforcement through less stringent standards and procedures. We detail the most significant changes below (see Table 1 for other key acts not detailed here).

### 3.1. Environmental deregulation and easing

Despite difficulties in enforcement and compliance, Brazil has a rather rich and advanced environmental legislation including, for example, a specific section on the environment in the Constitution, and a legislation that limits the conversion of native vegetation on private lands (Drummond and Barros-Platiau, 2006). Since the current administration took office, however, several legislative acts have aimed to weaken this legislation (Fig. 1). During the pandemic, this pattern has intensified with 23 acts either deregulating or easing the current environmental legislation. One of the most significant deregulating acts was an order from the Minister of the Environment to reduce protection and provide amnesty for deforestation in the Atlantic Forest (Watanabe, 2020; Brasil, 2020a), the ecosystem with the lowest original forest cover remaining in Brazil (Souza Jr. et al., 2020). While the Brazilian Native Vegetation Protection Law (Law No. 12.651/2012) establishes parameters to protect native vegetation in the country, the protection of the Brazilian Atlantic Forest is regulated by a specific and more restrictive law (Law No. 11.428/2006), which prevails over the Brazilian Native Vegetation Protection Law. The current government questioned this understanding, with a more flexible and weaker interpretation that would have dire consequences to the Atlantic Forest (Brasil, 2020a). It would result in the amnesty of up to 20,000 km<sup>2</sup> of illegally deforested land, the removal of protection of 110,000 km<sup>2</sup> of currently protected vegetation within islands and mangroves, and inaction on 3297 km<sup>2</sup> of vegetation in ‘permanent preservation areas’ that should had been restored (Rosa and Azevedo, 2020). COVID-19 is also harmful for these areas that need restoration, as one of its more lasting impacts will be economic, restricting the availability of funds, particularly for active restoration that requires tree planting (Zahawi et al., 2020). The



**Fig. 1.** Timeline of legislative acts that weakened environmental protection in Brazil. The acts include deregulation and easing of the Brazilian environmental legislation. The vertical red bar shows the start of the COVID-19 outbreak in Brazil. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

**Table 1**

Examples of other legislative acts approved during the COVID-19 pandemic not mentioned in the text (see Table S1 for all acts enacted in the period analyzed).

Publication date	Legislative act	Impacts
Mar-20	Instrução Normativa n° 12, de 25 de março de 2020	Extends the deadline for companies to provide their annual reports on pollution and impacts on natural resources
Jun-20	Resolução n° 37, de 4 de junho de 2020	Authorizes mining in areas already designated for the activity, but before the competent authorities provides their final authorization.
Jun-20	Portaria n° 2, de 25 de junho de 2020	Establishes that not all areas of permanent preservation need to be restored, even if illegally cleared
Jul-20	Ato n° 42, de 22 de julho de 2020 da Coordenação-Geral de Agrotóxicos e Afins	Reviews the toxicology of 47 pesticides, classifying them as either less dangerous or without a specific category
Aug-20	Extrato de Parecer Técnico n° 7.023/2020	Exempts Monsanto to monitor the new GMO variety of corn (MON 87411) that has been recently approved for planting.
Aug-20	Resolução n° 824, de 13 de agosto de 2020	Reduces the required amount of biodiesel to be added to diesel from 12% to 10%
Sep-20	Portaria N° 221, de 15 de setembro de 2020	Provides temporary fishing authorization for all fishermen that claim to practice industrial fishing. The authorization comes without any screening or evaluation of the fishermen and their practices.

synergism between the changes in the Atlantic Forest Law and the economic cutbacks caused by the COVID-19, therefore, could be disastrous for this already threatened ecosystem. After a campaign by the environmental movement and a lawsuit by the Public Prosecution Service, the order was canceled, but the Brazilian President contested the constitutionality of the application of the Atlantic Forest Law to the Supreme Court, which remains still undecided (Direct Unconstitutionality Action No. 6446, <http://portal.stf.jus.br/processos/detalhe.asp?incidente=5929755>).

Regarding legislative easing, several acts have postponed deadlines for both the public and the government to abide by different environmental regulations, including: a one-year extension of logging contracts (Brasil, 2020b), the reduction of Brazil's annual emission targets until the end of 2021 (Brasil, 2020c), and a two-year extension for fishing boats to adhere to a satellite-monitoring program (Brasil, 2020d). The National Environment Council (Conama) is a consultative and deliberative body created in 1982 in charge of guiding and establishing criteria and standards for environmental policies in Brazil. Its composition was modified in 2019 to increase the presence of the government and reduce that of civil society, and in September 2020 revoked three key environmental rules. The rules revoked led to weaker standards and procedures for pesticides and changed the definition of permanent preservation areas. This last decision reduces the protection of coastal ecosystems, such as mangroves and sandy coastal plain vegetation, which have an important role in coastal protection, and are included in Brazil's National Plan for Climate Adaptation (Brasil, 2016). Finally, in November 2020, the Supreme Court suspended the effects of that decision, considering the risk of violation of the constitutional principle of non-regression in environmental protection and disregard to international agreements where Brazil is a signatory (Fundamental Requirement Argument No. 748, <http://portal.stf.jus.br/processos/downloadPeca.asp?id=15345216691&ext=.pdf>).

### 3.2. Environmental structure dismantling

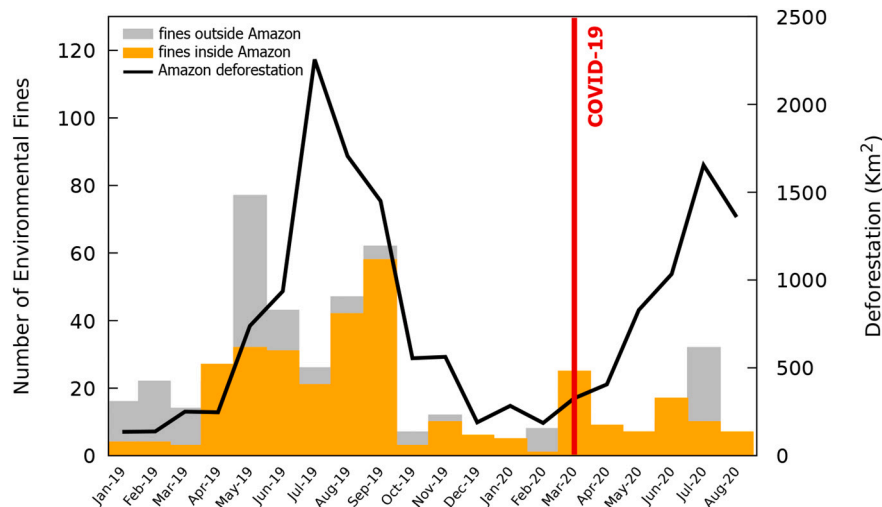
The current administration has overseen a systematic dismantling of Brazilian institutions and commissions involved in monitoring and enforcing environmental regulations (particularly those linked to the Ministry of the Environment). This appears to have intensified during the pandemic. The elimination of the Ministry of the Environment has always been on the agenda of the current administration (Stachewski, 2019), as well as the merging of the two main federal environmental management bodies: the Brazilian Institute of Environment and Renewable Natural Resources (Ibama), in charge of inspection and environmental licensing, and the Chico Mendes Institute for Biodiversity Conservation (ICMbio), which manages protected areas and conservation programs for threatened species (Borges, 2020a). Society's reaction has been able to prevent both measures thus far (see Societal Response section below), but other actions have been reducing the management capacity of these bodies (Borges, 2020b).

Nationwide, at all levels of environmental administration, police or military staff are systematically replacing administrative and reserve heads, who previously had technical or environmental expertise (Bragança and Menegassi, 2020). Just in May 2020, 38 reserve and sub-reserve heads were dismissed (Bragança and Menegassi, 2020). Many protected areas had head positions removed and staff relocated to regional offices called Integrated Management Centers (NGI, in Portuguese), weakening the management and enforcement in the field. The change, made with no clear ecological or geographical criteria, left protected areas essentially headless and understaffed. The protected area that has saved the emblematic Golden Lion Tamarin, for example, lost its head in May 2020 (Gonçalves et al., 2020), and is still headless and remains essentially adrift in the midst of the COVID-19 pandemic.

In the Amazon, the change of staff has been directly linked to those who were on the forefront of command-and-control operations to curb deforestation. For example, the Ituna-Itatá Indigenous Land has a group of indigenous people living in voluntary isolation. In 2019, this was the most deforested indigenous land in Brazil, with 120 km<sup>2</sup> of forests cleared (data from INPE, [http://terrabrasilis.dpi.inpe.br/app/dashboards/deforestation/biomes/legal\\_amazon/rates](http://terrabrasilis.dpi.inpe.br/app/dashboards/deforestation/biomes/legal_amazon/rates)), a figure six times higher than the Kayapó Indigenous Land, which came second. In the beginning of 2020, Ibama conducted several command-and-control operations in the area, which were featured in April in the most watched TV news program in the country. Two days later, the Ibama director of environmental protection and the two Ibama officials who led these operations were removed from office (Gonzales, 2020).

Another way to weakening Ibama and ICMbio is to cut budgets and reduce the infrastructure available for law enforcement operations, especially those against deforestation in the Amazon, which require aircraft support and complex logistics (Brant and Machado, 2020). The direct consequence is a reduction in the number of fines applied for environmental infractions (Fig. 2). Usually, there is an increase in the number of fines with an increase in the number of environmental infractions, as seen for Amazon deforestation in 2019 (Fig. 2). However, during the COVID-19 pandemic, despite high deforestation rates, the number of fines was reduced by 72% in August 2020 in comparison to March 2020 for the Amazon region and by 74% for all of Brazil. The number of environmental fines dropped by 40% between January and July 2020 and were the lowest in a decade (Muniz et al., 2020), while Amazon deforestation reached 4719 km<sup>2</sup> in the same period - the highest level since the start of monthly deforestation records in 2015 (data from INPE, <http://terrabrasilis.dpi.inpe.br/app/dashboard/alerts/legal/amazon/daily/>).

The current administration also reduced the participatory process in environmental issues, on the grounds of "not being held hostage by councils" (Shinohara and Maia, 2020). A 2019 decree eliminated all councils and collegiate bodies of the federal public administration that were not created by specific laws. Conama had its composition changed, with a sharp reduction in seats for civil society, leaving it dominated by



**Fig. 2.** Timeline of environmental fines and deforestation in Brazil. The fines refer to illegal deforestation within and outside the Brazilian Amazon, and the deforestation within the Brazilian Amazon. The vertical red bar shows the start of the COVID-19 outbreak in Brazil. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

governmental officials (Brasil, 2019a). Another example of the reduced participatory process in the environmental administration is the changes made in the commission in charge of the National Plan for the Restoration of Native Vegetation (PLANAVEG) of the Ministry of the Environment. In August 2020, in the middle of the COVID-19 pandemic, a new program called “Regenera Brasil” was created by the Ministry of Science, Technology and Innovation, with no reference to the PLANAVEG or its commission and no indication of any civil societal participation (Brasil, 2020e).

#### 4. Societal response

The Brazilian media, scientific community, and civil society, as well as the Public Prosecution Service have played an important role in monitoring and questioning the weakening of Brazil’s environmental protection during the COVID-19 pandemic. The national media coverage on environmental issues during (and despite) the pandemic has been very intense, as illustrated by the many references to newspaper articles cited here. Since the start of the pandemic, the Brazilian scientific associations have also produced a myriad of repudiation letters, in addition to many publications in important scientific journals calling attention to the issue (e.g. Andreazzi et al., 2020; de Oliveira et al., 2020; Gonçalves et al., 2020; Ferrante and Fearnside, 2020b; The Lancet, 2020). Our study is the first to quantify the influence of the COVID-19 pandemic on the weakening of environmental protection in Brazil.

During the COVID-19 pandemic, pressure at the international arena for better environmental performance in Brazil has also been key. In May 2020, the Brazilian photojournalist Sebastião Salgado organized a petition with more than 300,000 signatures, including those of international artists, celebrities, scientists, and intellectuals, calling attention to the possibility of a “genocide” of indigenous peoples in the Amazon (Phillips, 2020). Pope Francis also expressed concern over the consequences of weak environmental protection and a COVID-19 outbreak among indigenous peoples in the Amazon (Blears, 2020). The weakening of environmental protection during the pandemic created a particularly perverse situation for indigenous and traditional peoples in the Brazilian Amazon, who saw increasing numbers of illegal miners invading indigenous reserves, which in turn increased exposure of indigenous peoples to COVID-19 (Ferrante and Fearnside, 2020a). Additionally, in an open letter to the Amazon Council now directed by Brazilian vice-president Mr. Hamilton Mourão, eight European nations warned of the economic damage Brazil might face if Amazonian

deforestation is not halted, given that European multinational companies were increasingly unable to meet their environmental targets when trading with Brazil (Frost, 2020).

In turn, public pressure has helped to revert a number of acts aimed at weakening environmental protection in Brazil, both before and after the start of the pandemic (e.g. Brasil, 2019b; Brasil, 2020f). The accumulation of evidence showing that the Ministry of the Environment is committed to weakening environmental protection in Brazil prompted the Public Prosecution Service to request for the dismissal of the Ministry of the Environmental during the peak of the COVID-19 outbreak in July 2020 (Brasil, 2020g). On [change.org](https://www.change.org) there were nine online petitions asking for his resignation and the hashtag #forasalles (#resign-Salles) had 23.7 k likes on Instagram by September 2020.

#### 5. Conclusions

The current Federal administration in Brazil took office in January 2019 and since this date, has enacted several legislative acts aimed at weakening environmental protection. During the pandemic, this pattern has intensified, with an increase in the dismantling of environmental legislation and institutions. Legislative and institutional weakening may interact in complex and synergistic manners, leading to unprecedented environmental damage. The effects of such changes will likely last for decades. For example, the reduction in environmental fines, combined with an amnesty for illegal deforested areas in the Atlantic Forest, may lead to land owners to feel empowered to continue to deforest. It is crucial that researchers follow closely the impacts of these changes in different ecosystems, in order to quantify the ecological damage and to propose new ways in which those could be reversed or at least reduced.

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#### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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